

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



552342

(43) International Publication Date  
21 October 2004 (21.10.2004)

PCT

(10) International Publication Number  
**WO 2004/089684 A1**

(51) International Patent Classification<sup>7</sup>: **B60N 2/225**

(21) International Application Number:  
PCT/GB2004/001490

(22) International Filing Date: 5 April 2004 (05.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0307987.8 7 April 2003 (07.04.2003) GB  
0320721.4 4 September 2003 (04.09.2003) GB

(71) Applicant (for all designated States except US): **ATL ENGINEERING (UK) LIMITED** [GB/GB]; Unit 15, Peartree Road, Stanway, Colchester, Essex CO3 5JN (GB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **DREW, Michael** [GB/GB]; 23a Brittens Lane, Salford, Milton Keynes MK17 8BE (GB).

(74) Agent: **RAYNOR, Simon, Mark**; Urquhart-Dykes & Lord LLP, Midsummer House, Midsummer Boulevard, Central Milton Keynes MK9 3BN (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

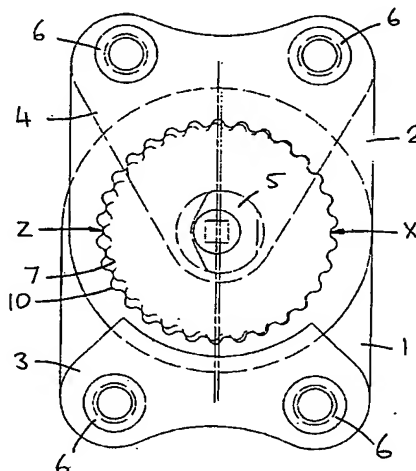
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: AN INFINITELY VARIABLE CONTINUOUS RECLINER MECHANISM FOR VEHICLE SEATS AND SIMILAR APPLICATIONS



(57) Abstract: A seat recliner mechanism for a seat having a seat cushion and a reclinable squab includes a stationary hinge member (1) connectable with the seat cushion, an adjustable hinge member (2) connectable with the squab and an angular position adjuster in the form of a wobble gear mechanism. The wobble gear mechanism includes an inner gear (7) connected to one of the hinge members (1), an outer gear (10) connected to the other hinge member (2) and an eccentric rotatable drive element (5) for causing eccentric rotation of the inner gear (7) within the outer gear (10). The outer gear (10) has one more tooth than the inner gear (7) and the inner and outer gears have conformal tooth profiles, whereby all but one of the teeth on the inner gear (7) engage with teeth on the outer gear (10).

WO 2004/089684 A1



---

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*